PaperCut Brother Embedded Manual

Contents

1 Overview 3
1.1 Consistency: 3
1.2 Integration: 3
1.3 Rate of development: 3
1.4 Vendor Neutral: 3
1.5 Security: 3
2 Installation 5
2.1 Requirements 5
2.1.1 Supported Brother Devices 5
2.2 Setup Procedure 6
2.2.1 Change the default admin password 6
2.2.2 Enable Brother Solutions Interface (BSI) 6
2.2.3 Setup via the Brother Administrative Web Interface 9
2.2.4 Inactivity logout timer 10
2.2.5 Networking/Firewall Configuration 10
2.2.6 PaperCut Settings 11
2.2.7 Additional Network Security (optional) 12
3 Post-install testing 12
3.1 Test Preparation 12
3.2 Scenario 1: Standard copying 13
3.3 Scenario 2: Copying with account selection 14
3.4 Scenario 3: Print release 15
4 Configuration 17
4.1 Device Function 17
4.2 Authentication Methods 17
4.3 Shared Account Selection 18
4.4 Customizing Text and Messages 19
5 Advanced Configuration 20
5.1 Config Editor 20
5.2 Configuring Swipe Card Readers 21
6 Known Limitations and Security 23
6.1 No fax tracking 23
6.2 No Scan to PC tracking 23
6.3 No zero stop when scanning and faxing 23
6.4 Tracking jobs can be accumulated for a login session 23

6.5 Bypassing the System 23
7 FAQ & Troubleshooting 24
8 Appendix A: Supported Authentication Card Readers 26
8.1 Catering for non-officially supported card readers 26
9 Appendix B: Process for performing user card association 27
10 Appendix C: Device screenshots for user documentation 28

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

This manual covers the Brother embedded MFD setup. For general PaperCut MF documentation, please see the PaperCut MF manual.

1 Overview

This manual provides an overview of the installation, configuration and operation of PaperCut's embedded software MFC (Multi-Function Device) solutions. Today's MFCs are smarter – some have touch screens and offer the ability to run applications directly on the device. The goal of PaperCut Software's embedded MFC solution is to leverage these smart devices and to provide walk-up copier users with the same set of rich application features provided in the print control area. These include:

- Secure access to device functions
- End user authentication
- Monitoring and control of photocopying (quotas, charging, allocation and logging)
- Allocation of copying to accounts/departments/cost-centers/projects (shared accounts)
- Ability to locate shared accounts via select-from-list
- Release jobs from a hold/release queue (Secure & Find Me Printing)
- Tracking of scanning

Highlights of the embedded solution include:

1.1 Consistency:

The embedded solutions are developed in-house by the PaperCut Software development team. This ensures that the copier interface is consistent with the workstation print interface, meaning users only have to learn one system.

1.2 Integration:

PaperCut is a single integrated solution where print, internet and copier control are all managed in the one system. Users have a single account and administrators have the same level of reporting and administration for all services. The embedded solution interacts with the PaperCut server using a Service Oriented Architecture (SOA) and web services based protocols.

1.3 Rate of development:

PaperCut is developed under a release-often policy where new features are made available to users as soon as they are complete. Unlike hardware based solutions, new versions can be delivered to users regularly as software updates.

1.4 Vendor Neutral:

PaperCut remains true to its vendor neutral stance. All embedded solutions are equal and support all server OS's including Windows, Linux and Mac.

1.5 Security:

A large percentage of PaperCut's user base is in Education environments where security is important. All embedded solutions are developed with security in mind. Where security objectives can't be satisfied, any known deficiencies are fully disclosed.

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

2 Installation

This section covers the installation of the PaperCut embedded application for compatible Brother devices. The embedded application will allow the control, logging and monitoring of walk-up off-the-glass copier, and scanner usage and may serve as a release station for network prints (for information on tracking network printing see the PaperCut user manual).

2.1 Requirements

Ensure that the following points are checked off before getting started:

- PaperCut is installed and running on your network. Please see the 'Installation' section of the PaperCut user manual for assistance.
- Ensure that your Brother MFC is in the list of supported devices. Check the device lists in 2.1.1 below.
- The Brother devices must be directly accessible over the network by the PaperCut server (i.e. not via a NAT network).
- Have available the network name and IP address of the system running PaperCut (e.g. the print server).
- Ensure that the Brother MFC is connected to the network.
- Have available the network address of the Brother MFC. It is recommended that the MFC is configured with a static IP.

2.1.1 Supported Brother Devices

The following Brother devices are supported for the Brother Solutions Interface (BSI) .

BSI compatible touch panel MFC **(Type 1)** **Use firmware of at least "H"** **(BSI included after version "E")**	**BSI compatible 5 line LCD MFC** **(Type 2)** **Use firmware of at least "G"** **(BSI included after version "D")**
MFC-9970CDW (requires SST firmware from Brother sales office) DCP-9270CDN (requires SST firmware from Brother sales office) DCP-9070CDW DCP-8250DN MFC-8950DW MFC-8952DW MFC-9140CDN MFC-9330CDW	DCP-8110DN MFC-8510DN MFC-8520DN DCP-8150DN MFC-8710DW DCP-8155DN MFC-8910DW MFC-8810DW DCP-8112DN DCP-8152DN DCP-8157DN MFC-8512DN MFC-8712DW MFC-8912DW

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

PaperCut makes all attempts to keep the product compatibility information in this manual current. However, we make no warranties, express or implied, with respect to manufacturer's products or the interoperation with the listed PaperCut product(s). We offer 40 day trial versions of PaperCut software to assist you with compatibility testing with your network setup.

On the LCD Brother devices (type 2), the version number can be found on the Maintenance page. This can be seen in the screenshot below:

Figure 1 - Firmware version

2.2 Setup Procedure

2.2.1 Change the default admin password

1. On a computer, open your web browser
2. Enter the URL of the Brother device. E.g. http://brother-device-ip/
3. Log in as "admin" by entering the admin password at the top in the Login box. The password is set to "access" by default. Note that you do not enter the username here, just the password.

Figure 2 - Administrator login on MFC-8910DW

4. Change the password (it cannot be left empty or have a value of "access") using the "Login Password" link. If you do not change the default admin password, you will receive a "connection error 1" at a later stage.

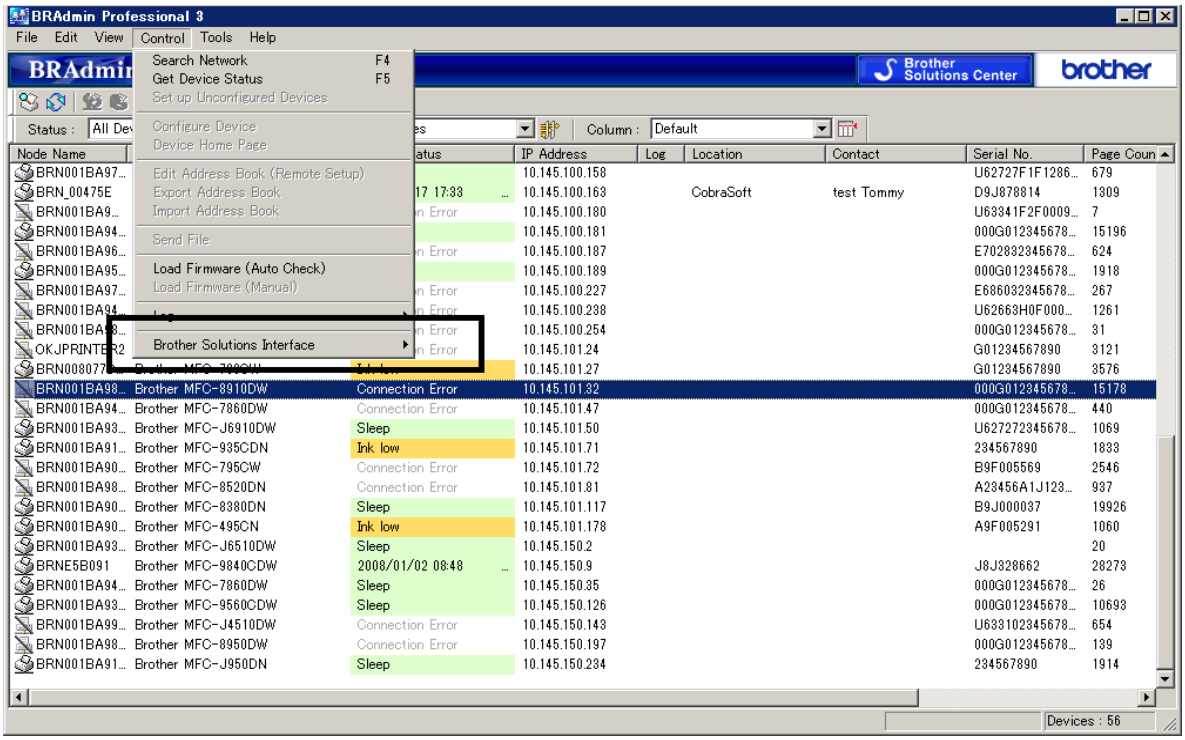
2.2.2 Enable Brother Solutions Interface (BSI)

The BSI needs to be enabled on most of the MFCs except for the models of MFC-9970CDW and DCP-9270CDN (these models already have BSI enabled).

Follow these steps:

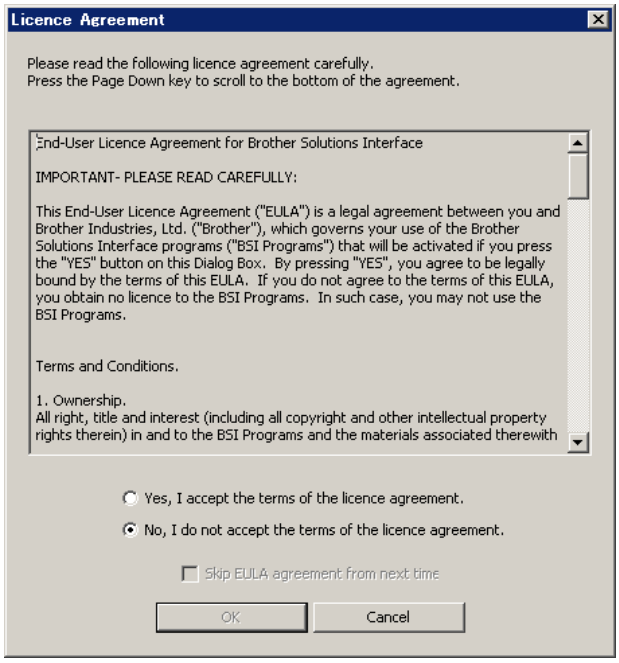
Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

1. Download and install BRAdmin Professional (BRAdmin light does not have this option).
2. Run BRAdmin.
3. Select device which matches the ip address of your MFC.
4. Select the menu item: Control -> Brother Solutions Interface -> Enable.

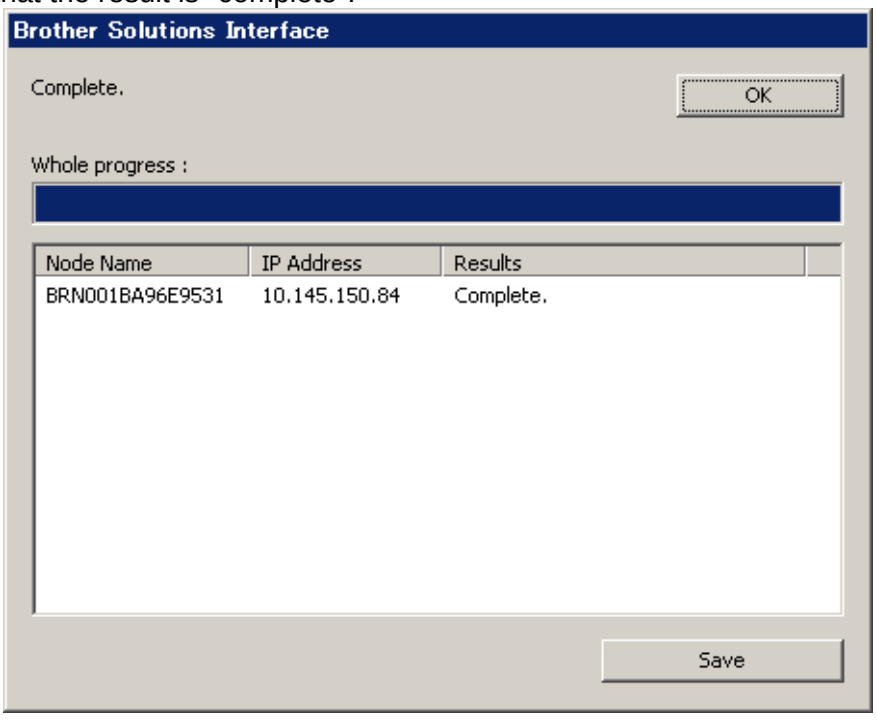


5. Select "Yes" on the license agreement dialog of BRAdmin.

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.


Licence Agreement
Please read the following licence agreement carefully.
Press the Page Down key to scroll to the bottom of the agreement.
End-User Licence Agreement for Brother Solutions Interface
IMPORTANT- PLEASE READ CAREFULLY:
This End-User Licence Agreement ("EULA") is a legal agreement between you and Brother Industries, Ltd. ("Brother"), which governs your use of the Brother Solutions Interface programs ("BSI Programs") that will be activated if you press the "YES" button on this Dialog Box. By pressing "YES", you agree to be legally bound by the terms of this EULA. If you do not agree to the terms of this EULA, you obtain no licence to the BSI Programs. In such case, you may not use the BSI Programs.
Terms and Conditions.
1. Ownership.
All right, title and interest (including all copyright and other intellectual property rights therein) in and to the BSI Programs and the materials associated therewith
Yes, I accept the terms of the licence agreement.
No, I do not accept the terms of the licence agreement.
Skip EULA agreement from next time
OK
Cancel

6. Input MFC admin password (that you created above).
7. Push OK button on Brother Solutions Interface dialog.
   The MFC will then reboot.
8. Confirm that the result is "complete".



Note: If the Solutions Settings menu is still not visible for the web interface to the Brother, then it may be necessary to set up the device with the correct country code. To set up the country code please contact your local Brother sales office for further information.

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

2.2.3 Setup via the Brother Administrative Web Interface

The web interface is used to configure the MFC to connect to PaperCut. By default the administrator username on the MFC is “admin” and the password is “access”.

Follow these steps:

1. In the web browser log back into the Brother device as “admin”.
2. Click on "Administration Settings" or “Administrator” at the top of the page.
3. Under **Solutions Application Entry**, ensure the **Login** and **Logout** URL both read **Error! Hyperlink reference not valid.** - eg, if your PaperCut‘s server IP address was “192.168.1.57”,and you gave the MFC the name “BrotherMFC” the URL would read: http://192.168.1.57:9191/device/brother?name=BrotherMFC
   Note that the [device name] in the URL above will be the device name that is used in the PaperCut administration interface.
4. Ensure the Application ID for Login and Logout Entry Points are different (eg. 1 for “login” and 2 for “logout”).

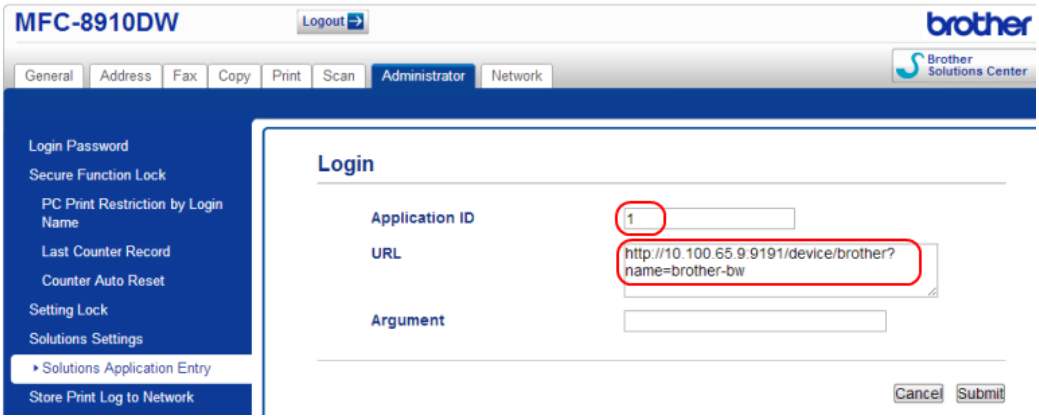


Figure 3 - Login URL

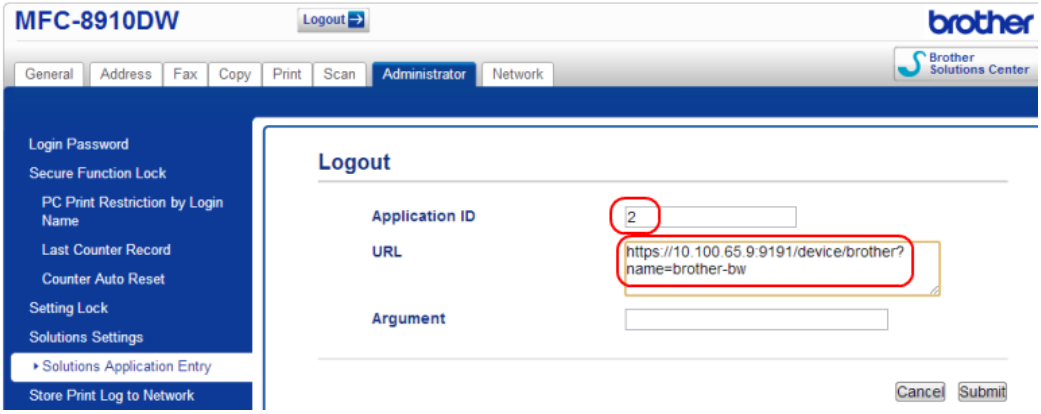
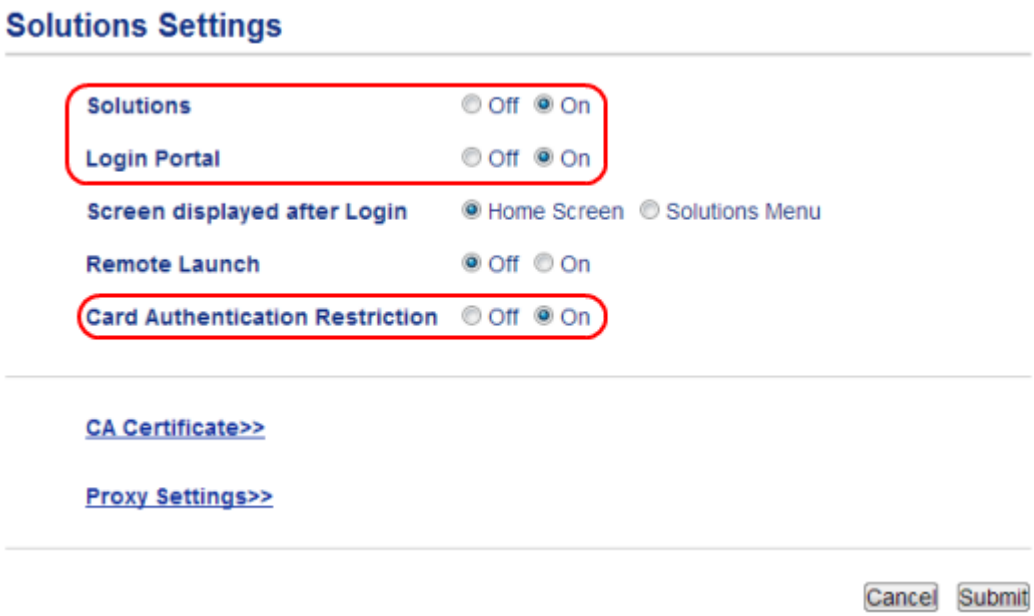


Figure 4 - Logout URL

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

5. Click on **Solution Settings** and ensure the following is set to On:
   a. Solutions
   b. Login Portal
   c. Card Authentication Restriction (if using card readers)



6. Click on “submit” and you will be asked to restart the MFC. Click on “Yes” to confirm.

2.2.4 Inactivity logout timer

On the Brother MFC, there is a timeout that will occur if there is no activity on the panel. For some models this timeout is fixed at 1 minute and for other models it can be configured by setting the value for the “Mode Timer” (under the “General” tab in the web interface or the menu on the MFC panel).

Models which support Mode Timer configuration	Models which have fixed timeout of 1 minute
MFC-9970CDW (only on panel menu) MFC-8510DN MFC-8520DN MFC-8710DN MFC-8710DW MFC-8910DW MFC-8810DW MFC-8512DN MFC-8712DW MFC-8912DW	MFC-8952DW MFC-8950DW DCP-8110DN DCP-9270CDN DCP-8250DN DCP-8150DN DCP-8155DN DCP-8112DN DCP-8152DN DCP-8157DN HL-S7000DN

2.2.5 Networking/Firewall Configuration

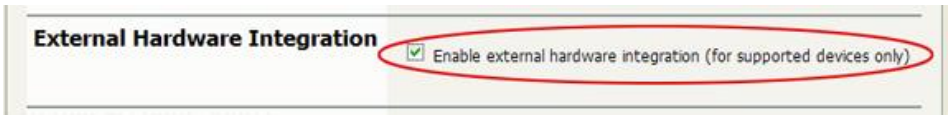
Ensure that your networking/firewall configuration allows:

- Inbound connections from the Brother devices to the PaperCut server on ports:
  - 9191 (TCP/HTTP).

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

2.2.6 PaperCut Settings

1. Log in to the PaperCut administration interface using a web browser (e.g. http://papercut-server:9191/admin).
2. Navigate to ‘Options -> Advanced’ and ensure the option ‘Enable external hardware integration’ is enabled.



3. Press ‘Apply’.
4. After configuring the Brother device through the device’s Administrator Settings page, please attempt to log in at the MFC. Doing so, will contact the PaperCut server and cause it to create the Brother device in PaperCut.
5. Having logged in at the device, click the **Devices** tab in PaperCut’s admin interface. You should see the Brother Device appear in the list of devices.

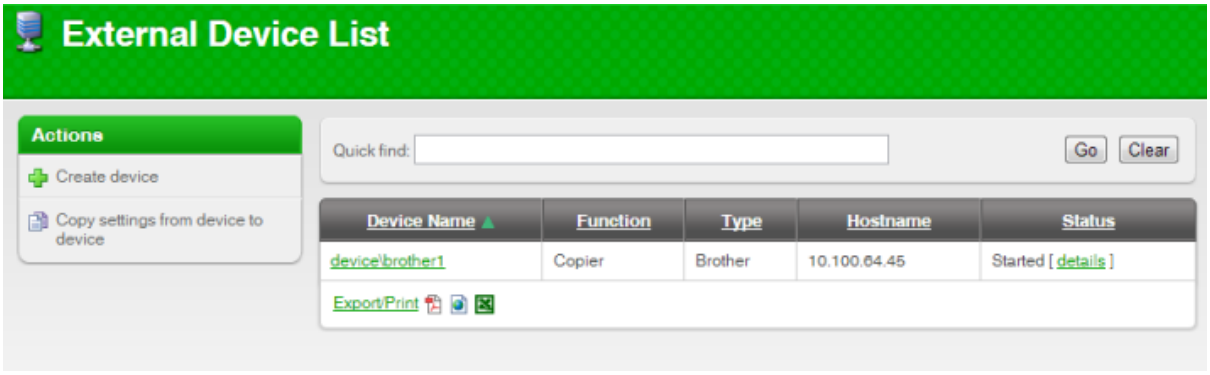


Figure 5 - Device List with Brother Device

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

2.2.7 Additional Network Security (optional)

The MFP communicates with the PaperCut server over the network (e.g. to authenticate users or release print jobs). To provide an additional level of security, PaperCut may be configured to only allow device connections from a restricted range of network addresses. This ensures that only approved devices are connected to the PaperCut server.

By default PaperCut will allow device connections from any network address. To restrict this to a subset of IP addresses or subnets:

1. Logon to the PaperCut administration web interface at http://<papercut-server>:9191/admin
2. Go to the Options→Advanced tab and find the "Security" section.
3. In the "Allowed device IP addresses" field enter a comma-separated list of device IP addresses or subnets (in the format <ip-address>/<subnet-mask>).
4. Press the "Apply" button.
5. Test the devices to ensure they can continue to contact the PaperCut server.

3 Post-install testing

After completing installation and basic configuration it is recommended to perform some testing of the common usage scenarios. This is important for two reasons:

1. To ensure that the embedded application is working as expected
2. To familiarize yourself with the features and functionality of PaperCut and the embedded application.

This section outlines three test scenarios that are applicable for most organizations. Please complete all the test scenarios relevant for your site.

3.1 Test Preparation

To complete these tests it is recommended you use two test users so that each can be configured differently. These users are:

- 'usersimple' – is used to perform basic copier monitoring and control and to perform print release tests.
- 'useradvanced' – is used to perform copier monitoring and control with the account selection enabled (i.e. to charge copying to accounts/departments/cost-centers/etc).

If you already have existing users for testing, then there is no need to create the users above. Instead you can use your existing users for testing.

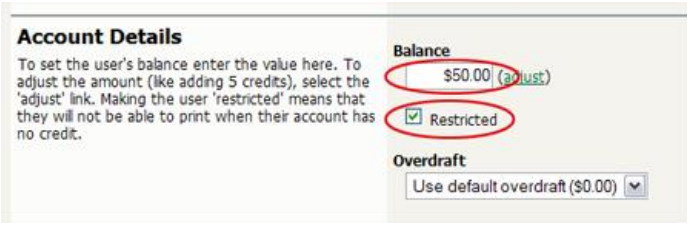
To setup these users in PaperCut:

1. Create the 'usersimple' and 'useradvanced' users in PaperCut

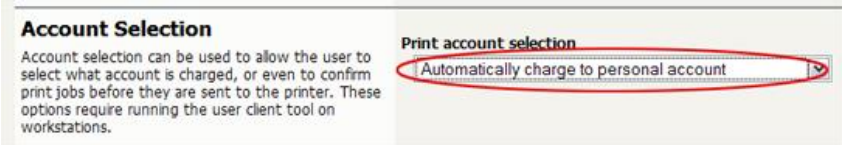
The next step is to configure the users. To configure 'usersimple':

1. In PaperCut, select the "Users" tab
2. Select the 'usersimple' user.
3. Set the user's balance to $50.00 and verify the account is set to "Restricted".

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.


Account Details
To set the user's balance enter the value here. To adjust the amount (like adding 5 credits), select the 'adjust' link. Making the user 'restricted' means that they will not be able to print when their account has no credit.
Balance
$50.00 (adjust)
Restricted
Overdraft
Use default overdraft ($0.00)

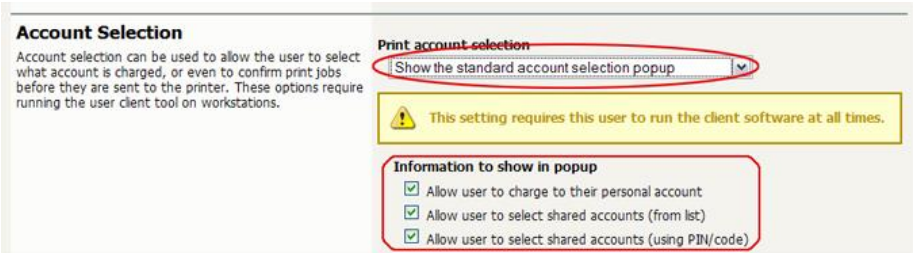
4. Verify that this user is set to “Automatically charge to personal account” in the “Account selection” options.


Account Selection
Account selection can be used to allow the user to select what account is charged, or even to confirm print jobs before they are sent to the printer. These options require running the user client tool on workstations.
Print account selection
Automatically charge to personal account

5. Press the “OK” button to save.

To configure ‘useradvanced’:

1. In PaperCut, select the “Users” tab
2. Select the ‘useradvanced’user.
3. Change the “Account Selection” option to “Show the standard account selection popup” and enable all the account selection options.


Account Selection
Account selection can be used to allow the user to select what account is charged, or even to confirm print jobs before they are sent to the printer. These options require running the user client tool on workstations.
Print account selection
Show the standard account selection popup
This setting requires this user to run the client software at all times.
Information to show in popup
Allow user to charge to their personal account
Allow user to select shared accounts (from list)
Allow user to select shared accounts (using PIN/code)

4. Press the “OK” button to save.

Ensure print release is disabled in PaperCut.

1. In PaperCut, select the “Device” tab.
2. Select the brother device.
3. In “External Device Settings”, make sure that “Enable print release” is unticked.

3.2 Scenario 1: Standard copying

Standard copying involves monitoring/charging printing to a user’s personal account. This is most commonly used for student printing or basic staff monitoring. Users can also be configured for unrestricted printing, which is commonly used for staff/employee use.

At the photocopier device:

1. Select username and password authentication.
2. Enter the ‘usersimple’ username and password.
3. Select “My personal account” if given an option to choose your account.
4. Next you will see an account information screen with your balance.
5. At this point the copier will be enabled for use. Any copying or scanning performed will be charged to the logged in user.

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

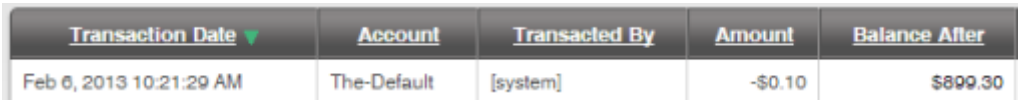
6. Once completed, press the logout button. For example on the MFC-8910DW, logging out is achieved by pressing the hard “Clear” button and on the MFC-9970CDW touch panel, one must select the user’s name on the panel to log out.

Back in the PaperCut application verify that the copier activity was recorded and the user’s account deducted.

1. Log in to PaperCut.
2. Select the device from the “Devices” tab.
3. Select the “Job Log” tab. This will list all recent copying activity on the copier. The copying just performed as the test user should be listed. Verify the details of the copy job that was just performed.

Date	User	Charged To	Pages	Cost	Document Name	Attribs.	Status
Feb 6, 2013 10:21:29 AM	usersimple	usersimple	2 (Color: 0)	$0.10	[copying]	A4 (ISO_A4) Duplex: No Grayscale: Yes	Printed [refund] [edit]

4. Click on the user’s name in the user column to view the user’s account details
5. Select the “Job Log” tab to display all print/copy activity for the user.
6. Select the “Transaction History” tab and verify that the cost of the photocopying was deducted from the user’s account.



Transaction Date	Account	Transacted By	Amount	Balance After
Feb 6, 2013 10:21:29 AM	The-Default	[system]	-$0.10	$899.30

3.3 Scenario 2: Copying with account selection

Copying can be allocated to “shared accounts” that represent departments, projects or cost centers. This is commonly used by staff in academic organizations to allocate printing to departments.

First some test accounts should be created:

1. Log into PaperCut, select the “Accounts” tab.
2. Select the “Create a new account…” action link on the left.
3. Enter an account name “Test Account 1”.
4. Press “Apply”.
5. Select the “Security” tab and allow all users to access that account by adding the “[All Users]” group.
6. Press “Add”.
7. Repeat the process to create another few accounts.

At the photocopier:

1. Enter the ‘useradvanced’ username and password.
2. You will then be given the option to choose either “My personal account” or one of the shared accounts that you configured above. Select a shared account.
3. Press the “Mono Copy” or “Color Copy” hard key and perform some test copying.
4. Once completed, log out.

Back in the PaperCut application verify that the copier activity was recorded and the user’s account deducted.

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

1. Log in to PaperCut
2. Select the device from the “Devices” tab
3. Select the “Job Log” tab. This will list all recent copying activity on the copier. The copying just performed as the test user should be listed.
4. Verify the details of the job (i.e. that the job was charged to the selected account).
5. In the log details, click on the “Charged To” account name to view the account’s details.
6. Selecting the “Job Log” tab will display all print/copy activity for the account, and will show the test photocopying that was performed.

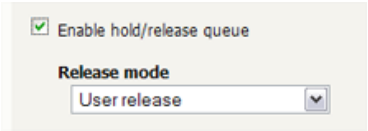
3.4 Scenario 3: Print release

The embedded application may also be used for print release. For full description of PaperCut hold/release queues and release stations, please read the PaperCut manual.

Skip this scenario if hold/release queues will not be used at your site.

To perform print release testing, a hold/release queue must be enabled:

1. In PaperCut, select the “Printers” tab.
2. Select the print queue (i.e. not the ‘device’) for the Brother MFC that is used for testing.
3. Enable the “Hold/release queue” option.



4. Press OK/Apply to save the changes. All printing to this queue will now be held until released by a user.

The photocopier device must also be enabled for “Print Release”:

1. In PaperCut, select the “Devices” tab.
2. Select the Brother MFC’s device.
3. In the “External Device Settings”, change the “Device Function” and “Enable print release” option.
4. Select the print queue that was enabled for hold/release above. The Brother device will allow jobs on the selected queues to be released.
5. Press “OK” to save. You will now notice in the External Device List that the device is listed as “Print Release”.
6. Login to a computer workstation as ‘usersimple’.
7. Print a few jobs to the print queue that was configured above. The jobs will be held in the hold/release queue.
8. Confirm that the jobs are held, by checking that the jobs are listed in the “Printers->Jobs Pending Release” page of the PaperCut administration interface.
9. Confirm that the username is ‘usersimple’.

At the photocopier device:

1. Enter the ‘usersimple’ username and password and press “Login”.
2. You will be taken to a release screen where you can either select “Quick release” or “Release jobs”.

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

3. Select the “Release jobs” option.
4. The list of held print jobs is displayed.
5. Select the job to release by selecting the job.
6. In the next screen you are given the option to cancel the job or print the job..
7. Select “Print job” and the job will then print.
8. Try cancelling a job by selecting another job and selecting the “Cancel job” option.
9. The job will be cancelled, and will not print.
10. Print a few more held jobs if you have released or deleted them all.
11. Choose “Quick release” this time.
12. This will show all the jobs selected for printing. On the LCD MFCs, the selecting or unselecting of a job is indicated by an asterix (“*”) - the selecting can be toggled by using the horizontal arrows “<” and “>”.
13. Hit “OK” and all the jobs will be printed.

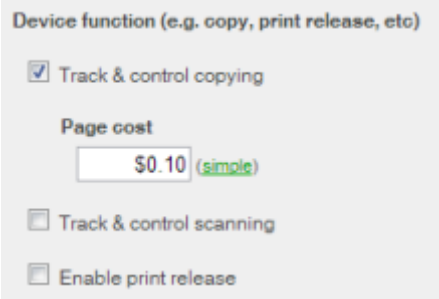
Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

4 Configuration

After completing the Installation section and registering the device with PaperCut, it will have been configured with reasonable default settings that are suitable for most environments. This section covers how to change the default settings. All the following settings are available via the device's 'Summary' tab in the PaperCut administration interface.

4.1 Device Function

The device function setting defines which functions will be available on the device and how it will be used. Not all function settings are supported on all devices.



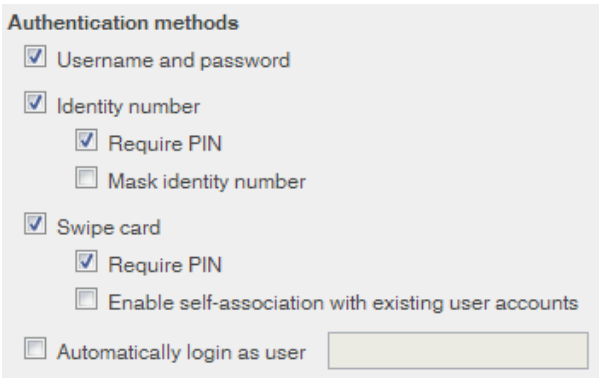
Each device function is discussed in the following table.

Device Function	Description
Track & control copying	The device will track walk-up off-the-glass copying and on-device printing.
Track & control scanning	The device will track scanning such as scan-to-email or scan-to-file.
Enable print release	The device will act as a print release station.

4.2 Authentication Methods

PaperCut supports a number of different ways to authenticate users who walk-up to the devices to perform copying. The default authentication method is username and password authentication.

The available authentication methods can be modified in the 'External Device Settings -> Authentication methods' section.



Authentication methods available for a device

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

Each authentication method is discussed in the following table.

Authentication Method	Description
Username and password	The user may use their domain/network username and password to log into the device.
Identity number	The user may log in with their identity number. Identity numbers are convenient when usernames are long or cumbersome to enter. For example, rather than entering a username like 'john.smith.001', it may be more convenient to enter an employee ID of '1234'. See the PaperCut user manual for information about user identity numbers, including importing identity numbers from an external source.
Identity number -> Require PIN	When a user logs in with their identity number, they must also provide their associated PIN. This provides additional security for identity number logins.
Swipe card	The user may log in by swiping a card (e.g. magnetic strip, smart card, RFID). See the PaperCut user manual for information about user card numbers, including importing card numbers from an external source. Please see Appendix A below for a list of supported card readers.
Swipe card -> Require PIN	When a user logs in by swiping a card, they must also provide their associated PIN. This provides additional security for swipe card logins.
Swipe card -> Enable self-association with existing user accounts	Users can swipe cards previously not used or registered at the device with PaperCut and will be prompted for their username and password. The swipe card can then be used at subsequent logins.
Automatically login as user	Specifies that this device should always automatically log in as the given user. This option overrides all other authentication methods

Description of authentication methods

4.3 Shared Account Selection

Shared account selection options at the MFC mirror the options presented in the PaperCut client print popup. The options available include:

- Select from a list of shared accounts
- Search for shared accounts by keyword
- Select account using PIN/Code

The options available to each user, as well as account security access, will mirror the same options available when the user prints. "Select from list" and/or "Select using PIN/Code" are controlled at the user level via the *User Details* page under "Account Selection" when showing the "standard account selection popup". The Security tab on each account controls account security/access.

Note: The search option will only appear if the account list is long. Short lists of only a few accounts will not list a search option. This can be configured by advanced config parameter of "ext-device.brother.accounts-search-at".

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

4.4 Customizing Text and Messages

PaperCut allows some text that appears in the device to be customized. The custom text might include instructions or terminology that is more appropriate for the site. An example of text that is customizable is the “welcome text” that displays on the initial login if multiple authentication methods are used.

The text can be customized by editing the device configuration from the PaperCut administration interface. For more details see the Advanced Configuration section.

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

5 Advanced Configuration

5.1 Config Editor

The common configuration options for a device in PaperCut are available on the device's 'Summary' tab, and are discussed in more detail in the Configuration section. This section covers the more advanced or less common configuration options which are available via the 'Advanced Config' tab in the device details screen.

Config name	Description
ext-device.card-no-regex	See chapter section 5.2.
ext-device.card-self-association.use-secondary-card-number	Select whether user self-association should occupy the primary or secondary card number. It overrides the global setting unless the keyword "GLOBAL" is specified. This is useful when there is a mix of different non-configurable card readers that read different numbers from an ID card. Set to "Y" to use the secondary card number, "N" to use the primary card number. Default: "GLOBAL" to defer to the global configuration option.
ext-device.brother.welcome-text	You can override the screen title of the authentication page (which is shown when more than one authentication method is configured)
ext-device.brother.maximum-accounts-list	This is the maximum number of accounts that is shown for account selection. Having too high a value may cause a problem on the MFC.
ext-device.brother.accounts-search-at	The number of available accounts for the user before the "Search" option is provided.
ext-device.brother.limit-reference.quota.duplex	Whether we consider the page to be duplex for the page quota (zero stop). By default we consider the page to be duplex so we don't overcharge the user.
ext-device.brother.limit-reference.quota.paper-size	The reference paper size that we consider for page quota (zero stop). By default for the United States this size is *Letter* and elsewhere it is *A4*.
ext-device.brother.limit-reference.quota.grayscale	Whether we consider the page to be grayscale for the page quota (zero stop).
ext-device.brother.received-logs	Should not normally be manually modified. This parameter notes whether the log was downloaded for the last login session.

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

5.2 Configuring Swipe Card Readers

Brother only officially supports the RFIdeas card readers. If you want to use another HID USB card reader then you will need to contact PaperCut support or your Brother office for steps on testing this at your own risk.

Supporting Card Reader authentication is as easy as:

1. Connecting a supported card reader to the device via the USB port (Note: On some devices this is hidden under a sticker on the side panel).
2. On the LCD screen MFCs such as the MFC 8910DW, you need to enable "Card Authentication Restriction" on the Solution Settings screen. Note that for the touch panel MFCs such as the MFC-9970CDW, this step is not needed.
3. Enabling *Swipe card* as an *Authentication method* under the device's configuration in PaperCut's web interface.
4. Ensure the card number, as read by the reader, is loaded into the Card Number field in the PaperCut database (or consider using user self-association).

Swipe cards contain numbers which are used to identify users according to the card number configured in the User Details screen under "Card/Identity" number. Some readers report information in addition to the number encoded on the card, such as checksums. PaperCut can treat these cases in two ways:

- A typical case is the checksum being reported after the card number, separated by an equals sign, such as in `5235092385=8`. PaperCut can handle this case by default; it will extract the number before the equal sign as the card number: `5235092385`.
- For some cases, a "regular expression" *may* be required that will filter the card number from the complete string of characters reported by the card reader. Documentation on regular expressions can be found on the Internet, e.g. at www.regular-expressions.info.
    - The regular expression must be fashioned so that the card number is returned as the first match group.
    - Usually one regular expression will be used for all the devices managed by PaperCut; this must be entered in the "Config editor" in the PaperCut Admin Console. Open the Admin Console and select the Options tab, then select "Config Editor (Advanced)" from the left menu. The key is called "ext-device.card-no-regex".
    - The global setting however can be overridden on a per-device basis: The key "ext-device.card-no-regex" can also be found on the "Advanced Config" tab in the device details screen. This setting will override the global setting unless the keyword "GLOBAL" is specified.
    - PaperCut developers will gladly assist in producing a regular expression when supplied with a few sample outputs from your card reader. Please contact PaperCut support.
    - If you would like to write your own regular expressions, here are some examples:
        - Use the first 10 characters (any character): `(.{10})`
        - Use the first 19 digits: `(\d{19})`
        - Extract the digits from between the two "=" characters in "123453=292929=1221": `\d*=(\d*)=\d*`

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

6 Known Limitations and Security

6.1 No fax tracking

Because of limitations in the Brother platform, the solution does not currently support fax tracking.

6.2 No Scan to PC tracking

Because of limitations in the Brother platform, the solution does not currently support tracking of scans done using the Scan to PC feature of the Brother.

6.3 No zero stop when scanning and faxing

Because of limitations in the Brother platform the solution does not currently offer zero stop when using scanning or faxing functions. If there is not enough credit in the selected account for a 1 page scan, then scanning will be disabled on the MFC after logging in (assuming scan tracking is enabled).

6.4 Tracking jobs can be accumulated for a login session

The copy and scan jobs are logged by PaperCut after the user logs out of the MFC. At this point, the jobs of the same type may be coalesced. For example, the user may do a 3 page copy job and then a 5 page copy job, and it will be logged as an 8 page copy job in PaperCut.

6.5 Bypassing the System

It is important that the administrators take care to prevent users from bypassing the system and directly accessing the copier. Likewise it's also important that administrators know how to bypass/disable the system if direct copier access is required – say to change advanced system settings. Administrators should take the following precautions:

- The copier's built in admin password should be changed and always kept secure.
- The power and network cable should be securely connected. The system is designed to be robust and record copier usage if the power is lost during copying, but it is possible to start copying before the embedded application starts after restarting the copier.

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

7 FAQ & Troubleshooting

My Brother device is not logging any copy/fax/scan jobs? What's wrong?

There are a number of possible problems. Check the following:

- Brother does not track fax jobs, so this is not possible.
- You are looking at the logs before the user has logged out. The jobs are only logged for the user for that session after they log out.
- In the PaperCut admin site, go to the "Devices" tab and select the device:
  - Verify that the "Device hostname / IP" is correct.
  - Verify that the appropriate "Device Functions" are enabled. i.e. To track scanning ensure "Track & control scanning" is enabled.
  - Check the Device Status on this page (or in Status column of Device List) to ensure no errors are occurring.
- Verify the correct version of the firmware is running.

The card reader isn't working? What's wrong?

- Firstly ensure that you are using a compatible card reader (see Appendix A).
- If you are using an LCD screen device such as the MFC-8910DW, then ensure that the "Card Authentication Restriction" is turned on in the "Solution Settings" menu.
- Card swipe is only recognized from two screens:
  - The initial login screen on the MFC
  - The card authentication screen, where it asks the user to swipe their card to log in.

  It will not allow card authentication from the authentication screen where the user chooses from the available authentication types.
- Make sure the card reader is connected while the device is booting up. Try rebooting the device.

What is the IP address of my PaperCut Server?

Use operating system command-line tools such as ipconfig or ifconfig to determine this.

I have thousands of accounts representing my clients. Will the system handle this?

Yes. We have designed the system to handle thousands of Shared Accounts. Users with many accounts will also be presented with some "power options" to help them find accounts including keywords based search.

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

What does "Connection error -xx" mean on the MFC panel?

Please refer to the table below for the explanation of the error codes and what to do. Error codes **2** and **3** are the most common encountered ones.

Connection error code	Description	How to recover
1	XML Parse Error or Other MFC Error	Report error code to PaperCut.
1	Password Error	BSI doesn't work if the password on the MFC is empty or is "access". Please change the password on the MFC.
2	No LAN connection	• Check network cable connection • Wait for MFC to fully initialize the network on power up • Check IP configuration
3	MFC cannot connect to the PaperCut application server	• Check the Solution Application Entry URLs on the MFC for login and logout and that they have the correct IP addresses for the PaperCut application server • Make sure that the firewall on the server running PaperCut is not blocking incoming http messages from the MFC • Check that the PaperCut application server is up and running
4	Network timeout	Check network setting
5	Authentication error for proxy server	Check proxy server setting on MFC
6	Electronic certificate error	Check certificate on server and reinstall
7	Expired electronic certificate	• Check setting of date and time on MFC and update accordingly • Check certificate on server

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

Why is the Scan to PC feature of the Brother not working with PaperCut?

There are two problems with trying to use the Scan to PC feature of the Brother and PaperCut. Firstly, the Scan to PC feature requires that the printer is directly connected to the client PC via USB or the network. Typically, printing is done via a print server and with ip filtering the MFP is set up not to allow connections from anything other than the print server (ie. it won't allow connections between the client PC and MFP). Alternatively, one could set up the client PC as a secondary print server but that is often not wanted. The second problem is that currently the Brother MFP does not do any internal logging of the scans for Scan to PC and so we are unable to track any of these scan jobs.

8 Appendix A: Supported Authentication Card Readers

The Brother devices officially only support the RFIdeas card readers.

The following RFIdeas models have been tested:

Supported RFIdeas card reader models
RDR-6081AKU
RDR-6281AKU
RDR-6381AKU
RDR-6E81AKU
RDR-6H81AKU
RDR-7081AKU
RDR-7581AKU
RDR-7L81AKU
RDR-7F81AKU

8.1 Catering for non-officially supported card readers

Some HID type card readers that are not officially supported by Brother may still be made to work if an appropriate PJL command is sent to the printer. For example, the PJL command file to support the Elatec (Vendor ID 0x09D8) and TWN3 (Model ID 0x0310) and TWN4 (Model ID 0x0410) looks like:

```
^[%-12345X@PJL
@PJL SUPERUSER PASSWORD=630327
@PJL DEFAULT CRDEVINF="01,02,09D8,0310"
@PJL DEFAULT CRDEVINF="02,02,09D8,0320"
@PJL DEFAULT CRDEVINF="03,02,09D8,0410"
@PJL DEFAULT CRDEVINF="04,02,09D8,0420"
@PJL SUPERUSEROFF
@PJL INFO CRDEVINF
^[%-12345X
```

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

Where `^[` is the ESCape character (0x1B) at the start of the first and last lines (if you prefer, you can contact PaperCut support to send you a copy of this file).

You may add up to 10 additional card readers by this method. The format of the line per card reader device is:

```
@PJL DEFAULT CRDEVINF=”aa,02,bbbb,cccc”
```

where “`aa`” is the flash memory number, “`bbbb`” is the vendor ID and “`cccc`” is the model ID. The other codes of “`630327`” and “`02`” in the PJL file should **not** be changed.

In order to find out the model ID and vendor ID of your card reader you can use a program such as USBView.exe on Windows.

To send the PJL file to the Brother device (to configure its support), you can use a program such as Brother’s `BRAdmin` tool or in Windows use the “`copy /b`” command to a shared printer or “`lp –o raw –d printer pjlfile`” in Unix.

Please contact PaperCut or Brother if you need to do this on the devices of MFC-9970CDW or DCP-9270CDN as additional steps are required.

9 Appendix B: Process for performing user card association

This section describes the process of how a user can associate a new card with their PaperCut account on the Brother devices.

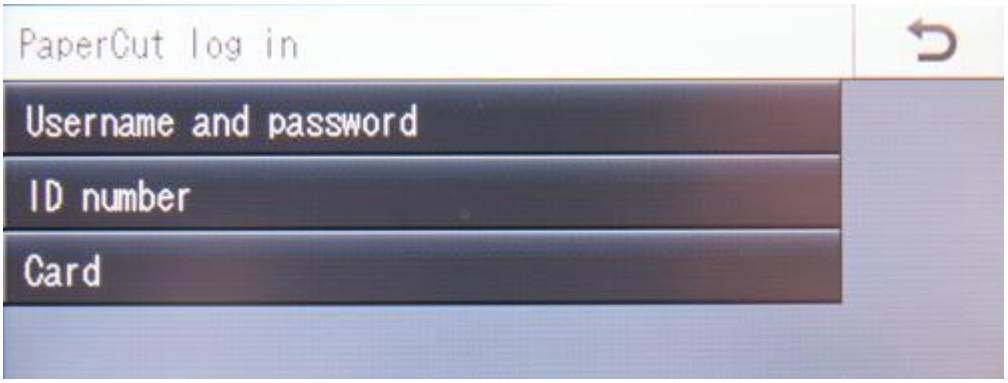
1. Present card at the MFP reader (should hear a beep)
2. Enter the username and password. If the association is successful the user is notified on the LCD screen.
3. You will then be logged.

At this point the card has been associated with the user’s account. Swiping the card again will allow them to login using the card.

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

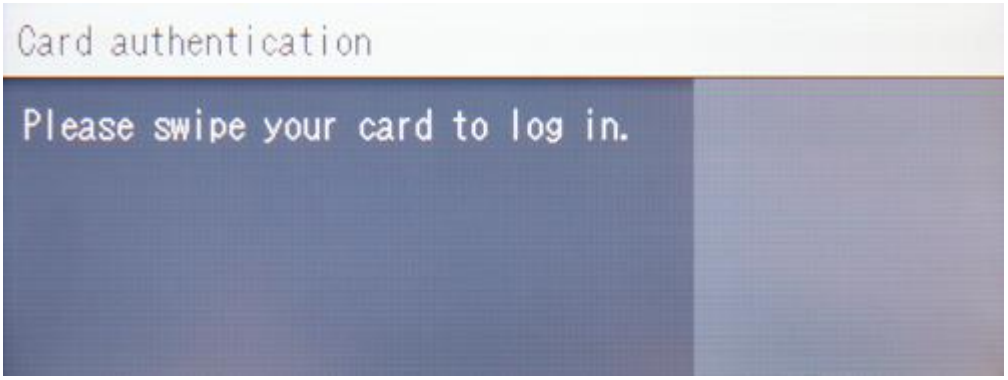
10 Appendix C: Device screenshots for user documentation

Welcome screen showing authentication options:

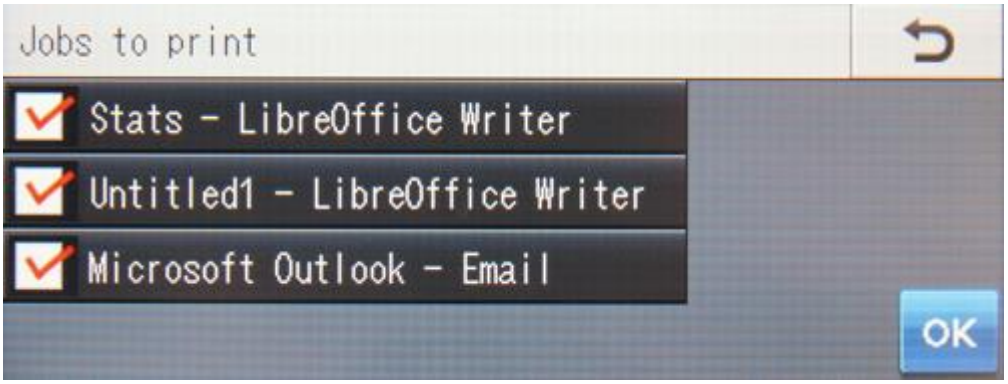


The action screen:

Card authentication screen:

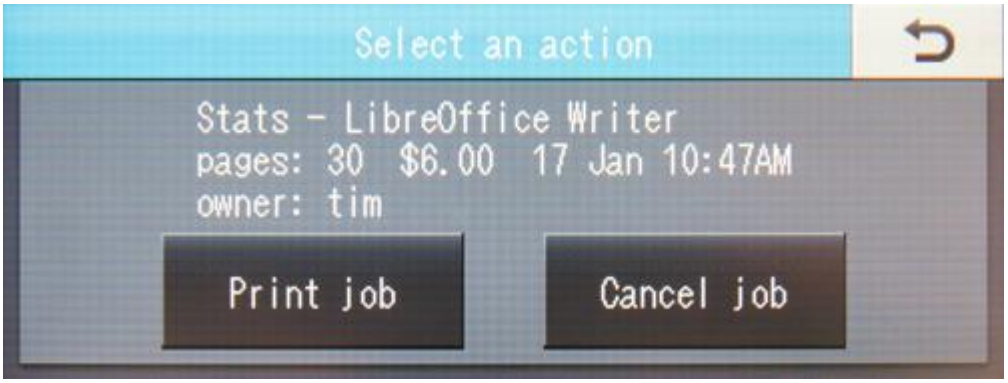


Quick release print screen (listing jobs):



Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.

Release job screen with job details:



Account selection screen:

Copyright © 2014 PaperCut Software International Pty. Ltd., All Rights Reserved.